

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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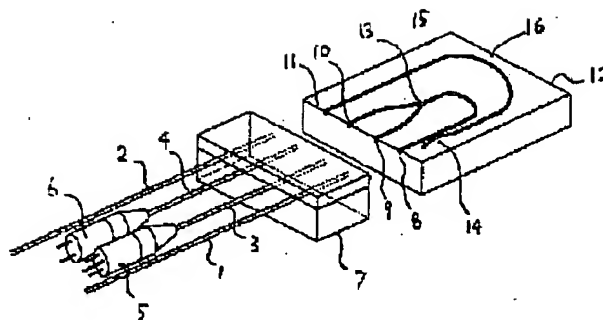
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TITLE : WAVEGUIDE TYPE OPTICAL MODULE



ABSTRACT : PROBLEM TO BE SOLVED: To enable batch connection without necessity to perform the alignment of optical axes or the like for each component by connecting a light emitting element or a light receiving element with an optical waveguide substrate while using an optical fiber array block.

SOLUTION: A 1st waveguide 15, 2nd waveguide 16 and directional coupler 14 are formed on an optical waveguide substrate 12 and the 1st waveguide 15 is further branched by a Y brancher 13. A 1st port 8, 2nd port 11, 3rd port 9 and 4th port 10 are formed on the same end face of the substrate 12 and connected with an optical fiber array block 7 constituted by fixing a pigtail fiber 3 of a light emitting element 5, pigtail fiber 4 of a light receiving element 6 and fiber 2 for output while respectively putting them in order so that the respective ports can be respectively matched with the optical axis of fiber. Thus, even concerning a waveguide type optical module composed of complicated and multiplexed components, mounting is facilitated and mass production and cost down are enabled.

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